

GC Accessories Quarterly Spotlight

2008.03



Save
30%
on oxygen and
moisture traps

Details on back page.



Chromatography Products

www.restek.com



NEW Electronic Leak Detector

Ever have a small leak turn into a costly repair? Protect your data and analytical column by using a Restek Leak Detector.

- Optimized sample flow path.
- A sleek, new ergonomic, hand-held design.
- Rugged side grips for added durability.
- Handy probe storage for cleanliness.
- Longer lasting battery, up to 6 hours of continuous use.
- Automatic shut-off capabilities.
- A convenient carrying and storage case.
- A universal charger set (US, European, UK and Australian plugs included).

Backed by a 1 year warranty, the new Restek Leak Detector will again set an industry standard for performance and affordability in hand-held Leak Detectors.



Restek's Competitive Advantage

	Restek Leak Detector	Agilent Leak Detector	Gow-Mac Mini
Probe Storage	✓		
Ergonomic Design	✓		
Hand Grips	✓		
Optimized Sample Flow Path	✓		
Storage Case	✓		
LED Leak Strength Indicator	✓		✓
6-Hour Battery	✓		✓

Leak Detector Facts

Detectable gases:	helium, nitrogen, argon, carbon dioxide, hydrogen
Battery:	Rechargeable Ni-MH internal battery pack (6 hours normal operation)
Operating Temperature Range:	32°-120°F (0°-48°C)
Humidity Range:	0-97%
Warranty:	one year
Certifications:	CE, Japan
Compliance:	WEEE, RoHS



Gas	Minimum Detectable Leak Rate (atm cc/sec.)	Indicating LED Light Color
Helium	1.0 X 10 ⁻⁵	Red
Hydrogen*	1.0 X 10 ⁻⁵	Red
Nitrogen	1.4 X 10 ⁻³	Yellow
Argon	1.0 X 10 ⁻⁴	Yellow
Carbon dioxide	1.0 X 10 ⁻⁴	Yellow

Avoid using liquid leak detectors on a capillary system! Liquids can be drawn into the system.

† Caution: The Restek Electronic Leak Detector is NOT designed for determining leaks in a combustible environment. A combustible gas detector should be used for determining combustible gas leaks under any condition. The Restek Electronic Leak Detector may be used for determining trace amounts of hydrogen in a GC environment only.



Carrying/storage case included with purchase of unit.



Soft-side storage case is ideal for storing your leak detector in smaller spaces.



Verify hard-to-reach leaks using the small probe adaptor.

Description	qty.	cat.#
Leak Detector with Universal Charger Set (US, UK, European, Australian)	ea.	22839
Soft-Side Carry/Storage Case	ea.	22657
Small Probe Adaptor	ea.	22658

Parker Balston® Hydrogen Generators

- Proton Exchange Membrane (PEM) cell eliminates the need for liquid electrolytes.
- Reliably generate 99.9995% pure hydrogen—for better chromatography.
- Eliminates high-pressure cylinders—greater convenience and improved lab safety.
- Compact unit, requiring only one square foot of bench space.
- Quick and easy to service and maintain; unique display lighting changes color for easy status checks and water level indication.
- Comes with a set of universal power adapters for US, European, and Asian plug types.

Fuel-grade high purity hydrogen generators are safer alternatives to high-pressure gas cylinders. The new Proton Exchange Membrane (PEM) cell eliminates the use of liquid electrolytes with hydrogen generators. Deionized water is all that is required to generate hydrogen for weeks of continuous operation. With an output capacity of up to 510cc/minute, one generator can supply 99.9995% pure hydrogen for up to several FIDs. Based on cylinder gas savings alone, a hydrogen generator pays for itself in one or two years.

Produced and supported by an ISO 9001 registered organization, Parker Balston® hydrogen generators are the first built to meet the toughest laboratory standards in the world: CSA, UL, cUL, and CE Mark. A great safety feature is the built-in sensing circuit, which shuts the generator down if a hydrogen leak is detected.

Specifications

Purity:	99.9995% pure hydrogen
Delivery Pressure:	10-100psig ± 1psig (69-689kPa ± 7kPa)
Outlet Port:	1/8" compression
Electrical Requirements:	100-230VAC/50-60Hz
Physical Dimensions:	17.12" h x 13.46" w x 17.95" d (43.48 x 34.19 x 45.6cm)
Shipping Weight:	40 lbs. (18kg) dry

Description	Capacity	qty.	cat.#
Hydrogen Generator H2PEM-100	100cc/min.	ea.	23065
Hydrogen Generator H2PEM-165	165cc/min.	ea.	23066
Hydrogen Generator H2PEM-260	260cc/min.	ea.	23067
Hydrogen Generator H2PEM-510	510cc/min.	ea.	23068

Replacement and Maintenance Components for Hydrogen Generators (for all models listed above)

Replacement Desiccant Cartridge for H2PEM Generators	ea.	23069
6-Month Maintenance Kit for H2PEM Generators (Includes: 1 deionizer cartridge, 1 water filter, 3 environmental filters)	kit	23070
24-Month Maintenance Kit for H2PEM Generators (Includes: 1 deionizer cartridge, 1 water filter, 3 environmental filters, 1 water level sensor, 1 water pump, and 1 desiccant cartridge)	kit	23071



new and improved!

Hydrogen PEM generators now come with a set of universal power adapters for US, European, and Asian plug types.

NORM-JECT® Syringes

NORM-JECT® syringes are latex-free, contain no rubber, no silicone oil, styrene or DEHP and are DNA-free. These syringes are the choice for any situation needing an inert, nonreactive syringe. Because of their composition, they are indicated for chromatography, nuclear medicine, amniocentesis, IVF, embryo transfer, and many laboratory procedures. They are more chemically resistant than rubber-tipped syringes and are manufactured from only laboratory grade polypropylene and polyethylene. These unique plastic syringes have a positive safety stop to prevent accidental spills. NORM-JECT® syringes are individually sterile strip packed.



Description	qty.	cat.#
1mL Tuberculin ¹	100-pk.	22766
3mL Luer Slip Centric Tip	100-pk.	22767
5mL Luer Slip Centric Tip ²	100-pk.	22768
10mL Luer Slip Eccentric Tip ²	100-pk.	22769
20mL Luer Slip Eccentric Tip ²	100-pk.	22770
30mL Luer Slip Eccentric Tip	50-pk.	22771
50mL Luer Slip Eccentric Tip ²	30-pk.	22772
3mL Luer Lock Tip	100-pk.	22773
5mL Luer Lock Tip ²	100-pk.	22774
10mL Luer Lock Tip ²	100-pk.	22775
20mL Luer Lock Tip ²	100-pk.	22776
30mL Luer Lock Tip	50-pk.	22777
50mL Luer Lock Tip ²	30-pk.	22778



new!

Great for use with Restek syringe filters!

Barrel—Polypropylene



Plunger—Polyethylene

¹Dose saver design with low dead space plug on the piston to minimize waste—recommended for Botox.

²The 5mL has graduations to 6mL, 10mL has graduations to 12mL, 20mL has graduations to 24mL and 50mL has graduations to 60mL.

new!



22788

Certified Autosampler Vial Kits

National Scientific's certified vial kits provide the extra assurance that time after time the vial that you use upholds the rigorous manufacturing standards of National Scientific. These certified vial kits include your choice of vials and closures, conveniently packaged in benchtop storage compartments.

- Certificates enclosed with each kit.
- Vials of clear or amber borosilicate glass, with ID marking spots.
- Closures with pre-inserted septa.
- Each kit sealed for integrity purposes.

Certification Parameters Include:

Vial Dimensions:	height, diameter, bottom thickness, neck length, thread profile, and annealing
Cap/Septum:	diameter, height, thread integrity, center flash, septa insertion, sealing/resealing test, residue by headspace GC, and extractables
Chemical Test:	HPLC Test: nonvolatile residue
	GC Test: volatile residue



22792

Description	100-pk.
Assembled 2mL Clear Vial w/Marking Spot and Bonded PTFE/Silicone Slit Septa	22789
Assembled 2mL Amber Vial w/Marking Spot and Bonded PTFE/Silicone Slit Septa	22788
Unassembled 2mL Clear Vial w/Marking Spot and Bonded PTFE/Silicone Septa	22792
Unassembled 2mL Clear High Recovery Vial w/Marking Spot and Bonded PTFE/Silicone Slit Septa	22793
Unassembled 2mL Amber Vial w/Marking Spot and Bonded PTFE/Silicone Septa	22790
Unassembled 2mL Amber High Recovery Vial w/Marking Spot and Bonded PTFE/Silicone Slit Septa	22791

new!



Screw-Top Headspace Vials and Caps

Screw-Top Headspace Vials

Description	Dimensions	qty.	cat.#
20mL Screw-Top Vial	22 x 75mm	125-pk.	22794
10mL Screw-Top Vial	22 x 45mm	125-pk.	22795

Magnetic Screw-Thread Caps

Description	qty.	cat.#
18mm Magnetic Screw-Thread Cap w/PTFE/Silicone	125-pk.	22796
18mm Magnetic Screw-Thread Cap w/PTFE/Silicone for SPME	125-pk.	22797
18mm Magnetic Screw-Thread Cap w/Pre-slit PTFE/Silicone for SPME	125-pk.	22798
18mm Magnetic Screw-Thread Cap w/PTFE/Blue Chlorobutyl	125-pk.	22799

please note

Sample Racks are for 12 x 32mm vials, NOT the headspace vials above.

Sample Racks for 12 x 32mm Vials

- Racks feature alphanumeric indexing for easier vial identification.
- Racks can be stacked for efficient storage.



Description	Capacity	qty.	cat.#	qty.	cat.#
Polypropylene Storage Rack for 12 x 32mm Vials	50 vials, 5 x 10	ea.	22856	5-pk.	22857

ETP Electron Multipliers for Mass Spectrometry

- Proprietary specialized surface material resulting in very high secondary electron emission.
- Air stable.
- 2 year shelf life guarantee.
- Discrete dynode design results in extended operating life.

The electron multipliers manufactured by ETP use a proprietary dynode material. This material has a number of properties that make it very suitable for use in an electron multiplier. It has very high secondary electron emission, which allows exceptional gain to be achieved from each dynode. This material is also very stable in air. In fact, an ETP multiplier can be stored for years before being used. As a direct result of the high stability of the active materials used in ETP multipliers, they come with a 2 year shelf life warranty (stored in original sealed package). Many testing laboratories take advantage of this long shelf life by keeping a replacement ETP multiplier on hand, ready for immediate installation. This keeps the instrument down time to a minimum.



For a typical ETP electron multiplier for GC/MS, the total active dynode surface area is ~1000mm². This can be compared to a standard continuous dynode multiplier that has a total channel surface area of only around 160mm² (for a channel with 1mm diameter and 50mm length). This increased surface area spreads out the work-load of the electron multiplication process over a larger area, effectively slowing the aging process and improving operating life and gain stability.

Description	qty.	cat.#
Electron Multipliers for Agilent GC-MS and LC-MS		
For Agilent 5970 GC-MS	ea.	23072
For Agilent 5971, 5972, GCD GC-MS	ea.	23073
For Agilent 5973 & 5975 GC-MS (includes mount for initial installation)*†	ea.	23074
For Agilent 5973 & 5975 GC-MS and LC-MSD (Replacement Multiplier)*†	ea.	23075
For Agilent LC-MSD (includes mount for initial installation)*†	ea.	23076
Electron Multipliers for Applied Biosystems (Sciex)		
For API 300, 3000 & 4000 Applied Biosystems	ea.	23077

*Note: The electron multipliers have been specifically developed to retrofit the original manufacturer's equipment. The detector incorporates a modular design to facilitate ease of replacement and additional innovations intended to enhance performance. First time installation requires a mount which includes the mechanical housing. After initial installation, only the replacement electron multiplier is required.

†This unit is designed for use in the 5975, 5973 GC and the LC/MSD.

also available

Other ETP Electron Multipliers are available on request.

Call 800-356-1688, ext. 4, or your Restek representative if you do not see your instrument listed.

Photoionization Lamps

Model 108-10.0/10.6 offers both 10.0 and 10.6 eV potential, has a 0.781" base diameter, and is used in Tracor, OI, and Baseline instruments. Model 103 has a 1.375" base and is used in HNU and SRI detectors. Model 108-BTEX lamp's higher output makes it ideal for detection of BTEX compounds.

Feature	Benefit
Longer life.	More for your money with each lamp.
Model 108-BTEX has 33% more output than older models.	Operate continuously at 1 ma and 250°C for 6 months and still have better than 50% of the initial output.
Lamps individually tested.	Your lamp will work to specifications.
Variety of models.	Among the best lamps available for most instrumentation.



Description	eV Rating	Base	qty.	cat. #
PID Lamp, Model 103 C	10.2	1.375"	ea.	20676
PID Lamp, Model 108	10.0/10.6	0.781"	ea.	20675
PID Lamp, Model 108-BTEX	10.0/10.6	0.781"	ea.	23020
PID Lamp Polishing Kit (contains iron oxide cleaning compound, swabs, and instructions)			kit	20674

MXT™ Low-Dead-Volume Connector Kits for Metal Columns

These low-dead-volume connectors are Siltek® treated and are deactivated to make them inert to active compounds, just like our MXT® columns. They can be used at temperatures up to 430°C without degrading the deactivated layer. Purchase the appropriate ferrules for connecting 0.28, 0.32 or 0.53mm ID tubing.

MXT™ Low-Dead-Volume Connector Kits for Metal Columns

- Connect a guard column/transfer line to an MXT® stainless steel column.
- Low thermal mass tracks rapid oven temperature programming.
- Stainless steel ferrules and nuts.
- Available in “Y” and union configurations.
- Siltek® treatment ensures ultimate inertness.



Each kit contains the MXT™ union, two 1/32-inch ferrules and nuts.

Description	qty.	cat.#
For 0.28mm ID MXT Columns	kit	20397
For 0.32mm ID MXT Columns new!	kit	20536
For 0.53mm ID MXT Columns	kit	20394



MXT™ Low-Dead-Volume “Y” Connector Kits for Metal Columns

- Connect two MXT® columns to one inlet or one MXT® column to two detectors.

Each kit contains the MXT™ union, three 1/32-inch ferrules and nuts.

Description	qty.	cat.#
For 0.28mm ID MXT Columns	kit	20396
For 0.32mm ID MXT Columns new!	kit	20537
For 0.53mm ID MXT Columns	kit	20395

Detector Replacement Parts

FID Replacement Jets

Standard Version

- Engineered with a fluted tip to guide the capillary column into the jet.
- Threads specially coated for easy installation and removal.
- Special processing ensures the highest degree of cleanliness.



High-Performance Version

- Similar to the standard version, but Siltek® treated.
- Extremely inert, for use with active compounds.

Capillary Dedicated FID Replacement Jet for Agilent 6890/6850/7890 GCs

Similar to Agilent part #	qty.	cat.#	qty.	cat.#
Standard, 0.011-Inch ID Tip				
G1531-80560	ea.	21621	3-pk.	21682
High-Performance Siltek Treated, 0.011-Inch ID Tip				
G1531-80560	ea.	21620	3-pk.	21683
High-Temperature, 0.018-Inch ID Tip				
G1531-80620	ea.	23078	3-pk.	23079

FID Jet for Thermo Scientific TRACE™ and Focus GCs



Description	Similar to TS part #	qty.	cat.#
FID Jet for Thermo Scientific TRACE and Focus GCs	404 043 01	ea.	23080

Capillary Ferrules

Vespel® Ferrules

- 100% high-temperature polyimide.
- Stable to 350°C.
- Durable, leak-tight.

Graphite Ferrules

- Preconditioned to eliminate out-gassing.
- High-purity, high-density graphite.
- Smoother surface and cleaner edges than conventional graphite ferrules.
- Contain no binders that can off-gas or adsorb analytes.
- Stable to 450°C.

Vespel®/Graphite Ferrules

- 60%/40% Vespel®/graphite blend, offering the best combination of sealing and ease of workability.
- Seal with minimal torque, reusable, and preferred for vacuum and high-pressure uses.
- Stable to 400°C.
- Recommended for mass spec transfer lines.

SAVE MONEY!
Buy ferrules in bulk
50-packs!

Capillary Ferrules—For 1/16-Inch Compression-Type Fittings

Ferrule ID	Fits Column ID	qty.	Vespel	Graphite	Vespel/Graphite
0.3mm	< 0.18mm	10-pk.	22213	20233	20275
0.4mm	0.18/0.25/0.28mm	10-pk.	22214	20200	20211
0.4mm	0.18/0.25/0.28mm	50-pk.	—	20227	20229
0.5mm	0.32mm	10-pk.	22215	20201	20212
0.5mm	0.32mm	50-pk.	—	20228	20231
0.6mm	0.28mm**	10-pk.	—	—	20232
0.8mm	0.45/0.53mm	10-pk.	22216	20202	20213
0.8mm	0.45/0.53mm	50-pk.	—	20224	20230
1.0mm	0.75mm*	10-pk.	22217	21058	24912
1.2mm	0.75mm	10-pk.	22218	—	—
1.6mm	1.00mm*	10-pk.	—	21060	—



*For micropacked columns.
**For 0.28mm MXT columns.

Compact Ferrules—For Agilent 5890/6890/6850 GCs

Ferrule ID	Fits Column ID	qty.	Graphite	Vespel/Graphite
0.4mm	0.25/0.28mm	10-pk.	20250	20238
0.4mm	0.25/0.28mm	50-pk.	20251	20239
0.5mm	0.32mm	10-pk.	21007	20248
0.5mm	0.32mm	50-pk.	21008	20249
0.8mm	0.45/0.53mm	10-pk.	20252	20263
0.8mm	0.45/0.53mm	50-pk.	20253	20264
1.0mm	0.75mm*	10-pk.	21059	21056
1.6mm	1.00mm*	10-pk.	21061	21057



Standard Ferrules—For 1/16-, 1/8-, and 1/4-Inch Fittings

Fitting Size	Ferrule ID	qty.	Vespel	Graphite	Vespel/Graphite
1/4"	3/16"	5-pk.	—	—	20258
1/16"	1/16"	10-pk.	22210	20207	20218
1/8"	1/8"	10-pk.	22211	20208	20219
1/8"	reduce to 1/16"	10-pk.	—	20209	20220
1/4"	1/4"	10-pk.	22212	20210	20221
1/4"	reduce to 1/8"	10-pk.	22219	20225	20222
1/4"	reduce to 1/16"	10-pk.	—	20226	20223



Encapsulated Ferrules—For 1/16-Inch Compression Fittings

- Reusable—will not deform and stick in fittings.
- Less torque needed to seal ferrule.
- Restek's unique blend of graphite minimizes fragmentation and outgassing.



Ferrule ID	Fits Column ID	qty.	cat.#
0.4mm	0.25mm	10-pk.	21036
0.5mm	0.32mm	10-pk.	21037
0.8mm	0.53mm	10-pk.	21038

Reusable!



Save 30% today on Restek Oxygen and Moisture Traps

Call 800-356-1688, ext. 3, or visit www.restek.com/trapped, to take advantage of this special offer.



Indicating Oxygen Trap

Dimensions: 10" x 1 1/4" (25.4 x 3.2 cm)

- Indicator changes color from light green to grey as oxygen is trapped.
- Heavy-walled glass body prevents oxygen & water infusion.
- Prepurged for fast stabilization.
- 100psi (689kPa) maximum operating pressure.
- Reduces oxygen to 0.1ppm.

Description	qty.	cat.#
Indicating Oxygen Trap, 1/8" Nickel-Plated Brass Fittings	ea.	22010-409
Indicating Oxygen Trap, 1/4" Nickel-Plated Brass Fittings	ea.	22011-409



Indicating Moisture Trap

Dimensions: 13" x 2" (33 x 5.1 cm)

- Reduces water to less than 10ppb; indicator changes color from blue to pink at 5% relative humidity.
- Prepurged for fast stabilization.
- Reduces noise from high-sensitivity detectors.
- Heavy-walled glass body prevents oxygen & water infusion.
- 40µm frit prevents microparticulate damage to needle valves and flow controllers.
- Maximum operating pressure: 100psi (689kPa).

Description	qty.	cat.#
Indicating Moisture Trap, 1/8" Nickel-Plated Brass Fittings	ea.	22014-409
Indicating Moisture Trap, 1/4" Nickel-Plated Brass Fittings	ea.	22015-409

Restek Trademarks: IceBlue, MXT, Press-Tight, Restek logo, SeCure, Siltek, ThermoLite, Vu-Union, Vu2 Union. Other Trademarks: BTO (Chromatography Research Supplies, Inc.), Viton (DuPont Performance Elastomers), Swagelok (Swagelok Company).

Simply place your order referencing the catalog number from the table.

Offer ends December 31, 2008. Discount cannot be combined with any other offers.



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